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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/787,222

02/27/2004

Toyotaka Yuasa

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02/07/2008

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EXAMINER

CRUPEAU, JONATHAN

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

02/07/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/787,222

Applicant(s)

YUASA ET AL.

Examiner

Jonathan S. Crepeau

Art Unit

1795

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1.6 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1.6 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 17, 2008 has been entered.

This Office action addresses claims 1, 6, 10, and newly added claims 11-14. Applicant's argument that JP '006 teaches away from the claimed range of nickel in paragraph [0024] is persuasive and the rejection over JP '006 is withdrawn. However, the claims are newly rejected under 35 USC 103 herein. This action is non-final.

Claim Rejections - 35 USC § 103

2. Claims 1, 6, and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-243951 in view of WO 03/044881.

In the abstract, JP '951 teaches a positive electrode material comprising secondary particles formed from primary particles. The primary particles are connected to each other by sintering. In the abstract, it is disclosed that the material may comprise LiCoO₂. As disclosed in [0025] of the machine translation, up to 40 mol% of the cobalt may be replaced with metals such

as nickel and manganese. Regarding claims 6 and 12, the mean particle size of the primary particles is 0.4-10 microns.

However, JP '951 does not expressly teach that the length in which the primary particles are linked on the section of the secondary particle is equivalent to 10-70% of the length of the whole periphery on the section of the primary particle, as recited in claims 1 and 11.

However, the reference would motivate the artisan to employ primary particles with relatively large portions of their surfaces touching, thereby rendering the claimed range obvious. As noted above, in the abstract, it is taught that the primary particles are sintered together. Further, in paragraph [0013] of the machine translation, the reference teaches that by sintering, it is possible to raise electric conductivity, to reduce the quantity of a required conducting agent and to raise pack density. The artisan would be motivated by these teachings to manufacture the secondary particles such that relatively large portions of the surfaces of the primary particles are touching each other. Accordingly, the limitation in claims 1 and 11 that the length in which the primary particles are linked on the section of the secondary particle is equivalent to 10-70% of the length of the whole periphery on the section of the primary particle would be rendered obvious.

JP '951 further does not expressly teach that the voidage of the secondary particle is 2.5-35%, as recited in claims 1 and 13.

However, this limitation would also be rendered obvious to the skilled artisan. As noted above, in [0013], it is taught that "pack density" may be increased, which would be the inverse of the claimed voidage. Accordingly, the voidage may be reduced to a relatively low value, thereby rendering the claimed range of 2.5-35% obvious.

JP '951 further does not expressly teach that the positive electrode material comprises $\text{Li}_x\text{Mn}_x\text{Ni}_y\text{Co}_z\text{O}_2$, as recited in claim 1.

WO 03/044881 teaches an $\text{Li}_x\text{Mn}_y\text{Ni}_z\text{Co}_w\text{O}_2$ material in the abstract. Example 3 in Table 1 discloses a composition falling within the subscript ranges recited in claim 1.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to use the $\text{Li}_x\text{Mn}_y\text{Ni}_z\text{Co}_w\text{O}_2$ composition of WO '881 as the active material of JP '951. In the abstract, WO '881 teaches that a positive electrode and a lithium cell using this material have a high energy density and excellent charging/discharging cycle performance. Accordingly, the artisan would be motivated to use the $\text{Li}_x\text{Mn}_y\text{Ni}_z\text{Co}_w\text{O}_2$ composition of WO '881 as the active material of JP '951.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (571) 272-1292. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jonathan Crepeau/
Primary Examiner
Art Unit 1795
February 7, 2008